

Claims

[c1] What is claimed is:

1. An antenna matching system used in a flip style mobile unit, the flip style mobile unit being selectively operated in an open status and a closed status, the antenna matching system comprising:

an antenna for receiving and transmitting an RF signal;

a first matching circuit for operating the antenna in a first matching mode;

a second matching circuit for operating the antenna in a second matching mode; and

a switch for switching the antenna between the first matching mode and the second matching mode according to whether the flip style mobile unit is in the open status or the closed status.

[c2] 2. The antenna matching system of claim 1 further comprising a control circuit electrically connected to the switch for controlling operations of the switch; when the flip style mobile unit is in the open status, the control circuit utilizing the switch to connect the first matching circuit with the antenna to operate the antenna in the first matching mode; when the flip style mobile unit is in

the closed status, the control circuit utilizing the switch to connect the second matching circuit with the antenna so as to operate the antenna in the second matching mode.

[c3] 3. The antenna matching system of claim 2 wherein the flip style mobile unit further comprises a signal processing module; when the flip style mobile unit is in the open status, the control circuit utilizes the switch to connect the first matching circuit with the signal processing module to operate the antenna in the first matching mode; when the flip style mobile unit is in the closed status, the control circuit utilizes the switch to connect the second matching circuit with the signal processing module to operate the antenna in the second matching mode.

[c4] 4. The antenna matching system of claim 1 wherein the flip style mobile unit further comprises a first housing and a second housing, and the first housing is detachably connected to the second housing.

[c5] 5. The antenna matching system of claim 4 wherein when the first housing joins with the second housing, the flip style mobile unit is in the closed status; when the first housing separates from the second housing, the flip style mobile unit is in the open status.

- [c6] 6. The antenna matching system of claim 5 wherein the flip style mobile unit further comprises a sensor for detecting whether the first housing joins with or separates from the second housing.
- [c7] 7. The antenna matching system of claim 1 wherein the flip style mobile unit is a flip style mobile phone.
- [c8] 8. A method used in a flip style mobile unit for switching an antenna among a plurality of matching modes, the plurality of matching modes at least comprising a first matching mode and a second matching mode, the flip style mobile unit further comprising a switch, the method comprising:
utilizing the switch to operate the antenna in the first matching mode when the flip style mobile unit is in an open status; and
utilizing the switch to operate the antenna in the second matching mode when the flip style mobile unit is in a closed status.
- [c9] 9. The method of claim 8 wherein the flip style mobile unit further comprises a first matching circuit and a second matching circuit, the method further comprising:
utilizing the switch to connect the first matching circuit with the antenna so as to operate the antenna in the first

matching mode when the flip style mobile unit is in the open status; and
utilizing the switch to connect the second matching circuit with the antenna so as to operate the antenna in the second matching mode when the flip style mobile unit is in the closed status.

[c10] 10. The method of claim 9 wherein the flip style mobile unit further comprises a signal processing module, the method further comprising:
utilizing the switch to connect the first matching circuit with the signal processing module to operate the antenna in the first matching mode when the flip style mobile unit is in the open status; and
utilizing the switch to connect the second matching circuit with the signal processing module so as to operate the antenna in the second matching mode when the flip style mobile unit is in the closed status.

[c11] 11. The method of claim 8 wherein the flip style mobile unit further comprises a control circuit electrically connected to the switch for controlling operations of the switch.

[c12] 12. The method of claim 8 wherein the flip style mobile unit further comprises a first housing and a second housing, and the first housing is detachably connected

to the second housing.

[c13] 13. The method of claim 12 wherein when the first housing joins with the second housing, the flip style mobile unit is in the closed status; when the first housing separates from the second housing, the flip style mobile unit is in the open status.

[c14] 14. The method of claim 13 wherein the flip style mobile unit further comprises a sensor for detecting whether the first housing joins with or separates from the second housing.

[c15] 15. The method of claim 14 wherein the sensor is electrically connected to the switch for controlling operations of the switch.

[c16] 16. The method of claim 8 wherein the flip style mobile unit is a flip style mobile phone.

[c17] 17. A flip style mobile unit being operated in an open status or a closed status, the flip style mobile unit comprising:

an antenna for receiving and transmitting an RF signal;
at least two matching circuits for respectively operating the antenna in a first matching mode and in a second matching mode;

a switch for switching the antenna between the first

matching mode and the second matching mode; and a control circuit electrically connected to the switch for switching the antenna between the first matching mode and the second matching mode according to whether the flip style mobile unit is in the open status or in the closed status.

[c18] 18. The flip style mobile unit of claim 17 wherein the two matching circuits comprise a first matching circuit and a second matching circuit; when the flip style mobile unit is in the open status, the control circuit utilizes the switch to connect the first matching circuit with the antenna so as to operate the antenna in the first matching mode; when the flip style mobile unit is in the closed status, the control circuit utilizes the switch to connect the second matching circuit with the antenna so as to operate the antenna in the second matching mode.

[c19] 19. The flip style mobile unit of claim 18 further comprising a signal processing module for processing the RF signal; when the flip style mobile unit is in the open status, the control circuit utilizing the switch to connect the first matching circuit with the signal processing module so as to operate the antenna in the first matching mode; when the flip style mobile unit is in the closed status, the control circuit utilizing the switch to connect the second matching circuit with the signal processing module so as

to operate the antenna in the second matching mode.

- [c20] 20. The flip style mobile unit of claim 17 further comprising a first housing and a second housing, the first housing being detachably connected to the second housing.
- [c21] 21. The flip style mobile unit of claim 20 wherein when the first housing joins with the second housing, the flip style mobile unit is in the closed status; when the first housing separates from the second housing, the flip style mobile unit is in the open status.
- [c22] 22. The flip style mobile unit of claim 21 further comprising a sensor for detecting whether the first housing joins with or separates from the second housing.
- [c23] 23. The flip style mobile unit of claim 17 being a flip style mobile phone.